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From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #41
To: Ham-Ant

Ham-Ant Digest Mon, 21 Feb 94 Volume 94 : Issue 41

Today's Topics:

 6 Mtr Loop Skywire??
 Homemade balun, unknown toroid material. Help!

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 18 Feb 1994 11:27:21 -0500
From: ftpbox!mothost!lmpsbbs!NewsWatcher!user@uunet.uu.net
Subject: 6 Mtr Loop Skywire??
To: ham-ant@ucsd.edu

In article <henrysCLDv8L.94C@netcom.com>, henrys@netcom.com (Henry B.
Smith) wrote:

> I want to construct a horizontally polarized, omni directional antenna
> for six meters.
>
> The big wheel for six meters is a consideration but it is fairly
> complicated to build.
>
> How about a Loop Skywire for six meters?
>
> The Loop Skywire is simply a square loop antenna erected horizontal
> to the earth and fed with 50 Ohm coax.
>
> The perimeter of the loop is $L = 1005 / f$, where f is the frequency. For
> six meters, f would be 50.25 and L would be 20 feet. Each side of

> the loop would be 5 feet.

For those who remember standard values, that comes out to 1/4 wave per side,
times 4 sides to make a full-wave loop.

>

> At 5 feet on a side, a simple loop could be constructed using PVC or
> something similar. It would even be feasible to stack the loops for
> more gain.

In fact (having done it), you can simply go out and buy two 10 ft lengths of

1/2" EMT (aka thinwall electrical conduit) and four 90 degree connectors,
then cut the conduit sections in half and bolt together in a square. Feed
at either a corner or center of one side, or gamma match from a corner along

one edge about 35% if you wish

>

> remainder deleted

> --

> -----
> | Henry B. Smith - NA5K henrys@netcom.com |
> | Dallas, Texas |
> | |
"I'm not sure I understand everything that I know"

--

Karl Beckman, P.E. < STUPIDITY is an elemental force for which >
Motorola Comm - Fixed Data < no earthquake is a match. -- Karl Kraus >

Some of the opinions expressed above aren't even claimed by the author!
Amateur radio WA8NVW @ K8MR.NEOH.USA.NA NavyMARS VBH @ NOGBN.NOASI

Date: Sun, 20 Feb 1994 16:29:46 GMT

From: agate!usenet.ins.cwru.edu!gatech!wa4mei.ping.com!ke4zv!gary@network.ucsd.edu

Subject: Homemade balun, unknown toroid material. Help!

To: ham-ant@ucsd.edu

In article <1994Feb20.012646.1@ntuvax.ntu.ac.sg> asirene@ntuvax.ntu.ac.sg writes:

> I just made a 1:1 current balun for use at the feed point of my 20 meter dipole
> fed from a RG-58. The problem was that the toroid I used was unmarked so I do
not know the

>actual effect of the "balun". Is there a way to test the balun? Or should I eliminate it
>altogether. What kind of effect will the balun (with or without) have on my transmission
>and reception?

A balun's purpose is to transform an unbalanced feed to a balanced load, or vice versa. What it really buys you is keeping RF current off the shield of coaxial feeders. This can distort your antenna pattern because the shield of the coax acts as an additional unwanted radiating element.

How to test. You need a "sniffer" to detect currents on the outside of the coax shield. A simple sniffer is a loop of wire soldered to a pilot lamp. While transmitting, run the loop up and down the coax (loop plane parallel to the coax). If the bulb lights, the balun isn't doing its job. You can make this more sensitive by using a loop tuned to the transmitter frequency (series resonant). Electrically shielding the loop will allow it to respond only to the H field from the coax.

In most cases, with simple dipoles, a balun is a waste of time and money. Sometimes it helps, but those cases are so installation dependent that on the air testing is the only real way to determine if it's doing you any good. (Radiation from the coax can sometimes be *helpful* in making contacts under certain conditions, like when the other station is off the end of your dipole.)

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
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End of Ham-Ant Digest V94 #41

